

METHODS OF GENERATING TEST DESIGNS FOR TESTING SPECIFIC  
ROUTING RESOURCES IN PROGRAMMABLE LOGIC DEVICES

ABSTRACT

Methods of directly targeting specified routing resources in a PLD, e.g., routing resources that need to be tested. Test designs are produced that implement observable nets using the targeted routing resources. A PLD router is used to route from a target routing resource backwards through the routing fabric of the PLD to the source of an observable net. The net is identified based on the source, and loads of the net are identified as router load targets. The router is then used to route from the target routing resource forwards to one of the loads on the net. This process can be repeated for a list of target routing resources to provide a test design that tests as many of the targeted routing resources as possible. Additional test designs can be created to test remaining target routing resources. In other embodiments, the router routes first forwards, then backwards.